

Appl. No. 10/648,594
Amdt. Dated Apr. 20, 2005
Reply to Office Action of Mar. 14, 2005

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. Claim 1 (currently amended): A thermal interface material comprising:

a polymer matrix having a thermally conductive first face and an opposite thermally conductive second face; and

a plurality of carbon nanocapsules incorporated in the polymer matrix, the carbon nanocapsules being filled with metal nano-grains.

Claim 2 (original): The thermal interface material as recited in claim 1, wherein the polymer is generally a reaction product of a polyether polyol and an isocyanate.

Claim 3 (original): The thermal interface material as recited in claim 2, wherein a molecular weight of the polyether polyol is in the range from 500 to 5000.

Claim 4 (original): The thermal interface material as recited in claim 2, wherein a functionality of the polyether polyol is in the range from 3 to 9.

Claim 5 (original): The thermal interface material as recited in claim 2, wherein a molecular weight of the isocyanate is in the range from 200 to 800.

Appl. No. 10/648,594
Amdt. Dated Apr. 20, 2005
Reply to Office Action of Mar. 14, 2005

Claim 6 (original): The thermal interface material as recited in claim 2, wherein a functionality of the isocyanate is in the range from 2 to 6.

Claim 7 (canceled)

Claim 8 (original): The thermal interface material as recited in claim 1, wherein the carbon nanocapsules are enclosed with thermally conductive material.

Claim 9 (original): The thermal interface material as recited in claim 8, wherein the thermally conductive material comprises indium and/or copper.

Claim 10 (canceled)

Claim 11 (currently amended): The thermal interface material as recited in claim [[10]] 1, wherein the metal nano-grains comprise silver, copper and/or phosphor bronze.

Claims 12-19 (canceled)

Claim 20 (previously presented): The thermal interface material as recited in claim 8, wherein a diameter of each carbon nanocapsule is in the range from 5 to 50nm.